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EXAMINER

PEPITONE, MICHAEL F

ART UNIT

PAPER NUMBER

1796

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08/18/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,001	<b>Applicant(s)</b> UEDA ET AL.	
	<b>Examiner</b> MICHAEL PEPITONE	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/8/09 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10-12, 14, 17-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryan *et al.* (US 6,506,873).

Regarding claim 10: Ryan *et al.* teaches a biodegradable polymeric fiber (1:15-21; 34:10-34; Ex. 3) prepared from a 50/50 weight basis ratio of a polylactic acid polymer {having a MFI of about 10 to 100 (210 °C, 2.16 Kg) (7:1-15)} and polypropylene {MFI ~35}; wherein the polylactic acid polymer and polypropylene were melt mixed {extruded} at 230 °C (34:10-34; Ex. 3).

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While data for the MFI of the polylactic acid polymer (210 °C, 2.16 Kg) and polypropylene were not reported at 190 °C and a load of 21.2 N, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a 0.1 to 10 ratio of MFI measured at 190 °C and a load of 21.2 N, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

Regarding claims 11-12: Ryan *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10].

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a total light transmittance of not higher than 60% [instant claim 11]; the polyolefin {polypropylene} forming a continuous phase [instant claim 12], would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

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Regarding claim 14: Ryan *et al.* teaches epoxy containing additives, specifically 0.1 to 0.5 wt% epoxidized multifunctional oils (8:29-46), and 1 to 10 wt% epoxide plasticizers (9:13-38).

Regarding claims 17-19 and 21: Ryan *et al.* teaches melt spun fibers {molded product} (34:10-34; Ex. 3).

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Ryan *et al.* (US 6,506,873).

Regarding claim 24: Ryan *et al.* teaches a method of preparing a biodegradable polymeric fiber (1:15-21; 34:10-34; Ex. 3) via melt mixing {extruding} at 230 °C a composition comprising a 50/50 weight basis ratio of a polylactic acid polymer {having a MFI of about 10 to 100 (210 °C, 2.16 Kg) (7:1-15)} and polypropylene {MFI ~35} (34:10-34; Ex. 3).

While data for the MFI of the polylactic acid polymer (210 °C, 2.16 Kg) and polypropylene were not reported at 190 °C and a load of 21.2 N, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a 0.1 to 10 ratio of MFI measured at 190 °C and a load of 21.2 N, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

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Claims 10-13, 15-20, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Ota *et al.* (US 2003/0055179), when taken with Ryan *et al.* (US 6,506,873).

Regarding claim 10 and 12-13: Ota *et al.* teaches a biodegradable polyolefin block copolymer (abstract) comprising a diblock copolymer containing 97.3% lactide and 2.74% polypropylene {as calculated by examiner} (§ 2443-2454, 2474-2478). Ota *et al.* discloses blending [in an extruder at 200 °C]: 10 wt% of a diblock copolymer containing 97.3% lactide and 2.74% polypropylene {as calculated by examiner}; 60 wt% polylactic acid; and 30 wt% propylene/ethylene copolymer (§ 2443-2454, 2474-2478) having a MFR of 25 g/10 min (230 °C, 2.16 Kg); with subsequent injection molding of the composition into a cup (§ 2478). Ota *et al.* teaches the melt flow rate (230 °C, 2.16 Kg) of the olefin block copolymer is in the range of 0.05 to 100 g/10 min (§ 1485) {corresponding to MFR of 0.005 to 1000 g/10 min for polylactide (0.1 to 10 ratio) [MFR of 2.5 to 250 for PLA in ex. 60]}. {While the MFR of PLA is not provided, the examiner takes the position that polylactide would have a MFR within the range of 0.005 to 1000 g/10 min [MFR of 2.5 to 250 for PLA in ex. 60] to afford a 0.1 to 10 ratio.

While data for the MFR of the polylactic acid polymer and polypropylene were not reported at 190 °C and a load of 21.2 N, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a 0.1 to 10 ratio of MFI measured at 190 °C and a load of 21.2 N, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

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Ryan *et al.* provides evidence of polylactic acid having a MFI of about 10 to 100 (210 °C, 2.16 Kg) (7:1-15).

Regarding claim 11: Ota *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10].

The Office realizes that all the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a total light transmittance of not higher than 60%, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

Regarding claims 15-16: Ota *et al.* teaches inorganic fillers, specifically layered silicates (¶ 195-204, 1695-1698, 1700-1705), in an amount of 0.01 to 300 parts by weight (¶ 1711).

Regarding claims 17-20 and 22-23: Ota *et al.* teaches molded products (¶ 1721-1723; 2474-2478, 2474-2477).

Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Ota *et al.* (US 2003/0055179), when taken with Ryan *et al.* (US 6,506,873).

Regarding claim 24: Ota *et al.* teaches a method for preparing a biodegradable polyolefin block copolymer resin composition (abstract) comprising blending [in an extruder at 200 °C]: 10 wt% of a diblock copolymer containing 97.3% lactide and 2.74% polypropylene {as calculated

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by examiner}; 60 wt% polylactic acid; and 30 wt% propylene/ethylene copolymer (¶ 2443-2454, 2474-2478) having a MFR of 25 g/10 min (230 °C, 2.16 Kg). Ota *et al.* teaches the melt flow rate (230 °C, 2.16 Kg) of the olefin block copolymer is in the range of 0.05 to 100 g/10 min (¶ 1485) {corresponding to MFR of 0.005 to 1000 g/10 min for polylactide (0.1 to 10 ratio) [MFR of 2.5 to 250 for PLA in ex. 60]}. {While the MFR of PLA is not provided, the examiner takes the position that polylactide would have a MFR within the range of 0.005 to 1000 g/10 min [MFR of 2.5 to 250 for PLA in ex. 60] to afford a 0.1 to 10 ratio}

While data for the MFR of the polylactic acid polymer and polypropylene were not reported at 190 °C and a load of 21.2 N, the reference teaches all of the claimed reagents and was prepared under similar conditions. Therefore, the claimed effects and physical properties, i.e. a 0.1 to 10 ratio of MFI measured at 190 °C and a load of 21.2 N, would inherently be achieved by a composition with all the claimed ingredients. If it is the applicants' position that this would not be the case: (1) evidence would need to be presented to support applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties and effects with only the claimed ingredients.

Ryan *et al.* provides evidence of polylactic acid having a MFI of about 10 to 100 (210 °C, 2.16 Kg) (7:1-15).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person



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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan *et al.* (US 6,506,873) as applied to claim 10 above, and further in view of Kimura *et al.* (US 5,618,911).

Regarding claim 13: Ryan *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10].

Ryan *et al.* does not disclose a blocked polylactide. However, Kimura *et al.* teaches a biodegradable polymer (abstract) comprising a polylactide having a blocked terminal group (abstract; 1:5-14; 2:25-42). Ryan *et al.* and Kimura *et al.* are analogous art because they are concerned with a similar technical difficulty, namely the preparation of biodegradable polylactides. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined polylactides having a blocked terminal group, as taught by Kimura *et al.* in the invention of Ryan *et al.*, and would have been motivated to do so since Kimura *et al.* suggests that polylactides having a blocked terminal group provides a melt stable polylactide composition which is excellent in biodegradability (4:18-40).

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Regarding claim 20: Ryan *et al.* teaches melt spun fibers {molded product} (34:10-34; Ex. 3).

Claims 15 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan *et al.* (US 6,506,873) as applied to claim 10 above, and further in view of Park *et al.* (US 4,632,869).

Regarding claim 15: Ryan *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10]; wherein TiO<sub>2</sub> is added to the composition (10:12-19; 48:66-67).

Ryan *et al.* does not disclose an amount {0.1 to 30 wt%} of inorganic filler {TiO<sub>2</sub>}. However, Park *et al.* teaches polyester /polypropylene composition (3:62-4:14) comprising 6 wt% of TiO<sub>2</sub>. Ryan *et al.* and Park *et al.* are analogous art because they are concerned with a similar technical difficulty, namely the preparation of polyester / polypropylene compositions comprising TiO<sub>2</sub>. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined 6 wt% TiO<sub>2</sub>, as taught by Park *et al.* in the invention of Ryan *et al.*, and would have been motivated to do so since Park *et al.* suggests that pigment {TiO<sub>2</sub>} loadings of about 1 to 3 wt% can be employed to enhance the opacity of the composition (2:35-40) (9:26-28).

Regarding claims 22: Ryan *et al.* teaches melt spun fibers {molded product} (34:10-34; Ex. 3).

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Claims 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ryan *et al.* (US 6,506,873) as applied to claim 10 above, and further in view of Ota *et al.* (US 2003/0055179).

Regarding claim 16: Ryan *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10]; wherein clays can be added to the composition (10:12-19; 48:66-67).

Ryan *et al.* does not disclose an amount {0.1 to 30 wt%} of clay. However, Ota *et al.* teaches a biodegradable polyolefin block copolymer (abstract) comprising a diblock copolymer containing 97.3% lactide and 2.74% polypropylene {as calculated by examiner} (§ 2443-2454, 2474-2478); wherein the biodegradable polymer composition can employ clays, specifically layered silicates (§ 195-204, 1695-1698, 1700-1705), in an amount of 0. 1 to 40 parts by weight (§1711). Ryan *et al.* and Ota *et al.* are analogous art because they are concerned with a similar technical difficulty, namely the preparation of biodegradable polylactide/polypropylene compositions comprising clays. At the time of invention a person of ordinary skill in the art would have found it obvious to have combined layered silicates in an amount of 0. 1 to 40 parts by weight, as taught by Ota *et al.* in the invention of Ryan *et al.*, and would have been motivated to do so since Ota *et al.* suggests that layered silicates provide an intercalated dispersion of the filler within the polymer matrix, thereby providing superior properties with less inorganic content than their conventional counterparts (§ 195-204, 1695-1698, 1700-1711).

Regarding claim 23: Ryan *et al.* teaches melt spun fibers {molded product} (34:10-34; Ex. 3).

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Claims 14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota *et al.* (US 2003/0055179) as applied to claim 10 above, and further in view of Ryan *et al.* (US 6,506,873).

Regarding claim 14: Ota *et al.* teaches the basic claimed composition [as set forth above with respect to claim 10].

Ota *et al.* does not teach 0.1 to 30 wt% of an epoxy containing additive. However, Ryan *et al.* teaches degradable polylactide /polypropylene composition (1:15-25; 34:10-40:25) comprising epoxy containing additives, specifically 0.1 to 0.5 wt% epoxidized multifunctional oils (8:29-46), and 1 to 10 wt% epoxide plasticizers (9:13-38). Ota *et al.* and Ryan *et al.* are analogous art because they are concerned with a similar technical difficulty, namely the preparation of degradable polylactide /polypropylene compositions. At the time of invention a person of ordinary skill in the art would have found it obvious to have 0.1 to 0.5 wt% epoxidized multifunctional oils and/or 1 to 10 wt% epoxide plasticizers, as taught by Ryan *et al.* in the invention of Ota *et al.*, and would have been motivated to do so since Ryan *et al.* suggests that epoxidized multifunctional oils provide reduced viscosity and increased melt strength (8:33-36), and epoxide plasticizers are non-volatile, non-toxic, and biodegradable (9:26-28).

Regarding claim 21: Ota *et al.* teaches molded products (¶ 1721-1723; 2474-2478, 2474-2477).

### ***Response to Arguments***

Applicant's arguments filed with the amendment entered with the RCE have been considered but are not persuasive.

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The rejection of claims 10-24 based upon Ota *et al.* (US 2003/0055179) and Ryan *et al.* (US 6,506,873) is maintained for reason of record and following response.

Ota *et al.* discloses a biodegradable polyolefin block copolymer resin composition (abstract) prepared by blending [in an extruder at 200 °C]: 10 wt% of a diblock copolymer containing 97.3% lactide and 2.74% polypropylene {as calculated by examiner}; 60 wt% polylactic acid; and 30 wt% propylene/ethylene copolymer (§ 2443-2454, 2474-2478). Ota *et al.* teaches the melt flow rate (230 °C, 2.16 Kg) of the olefin block copolymer is in the range of 0.05 to 100 g/10 min (§ 1485) {corresponding to MFR of 0.005 to 1000 g/10 min for polylactide (0.1 to 10 ratio) [MFR of 2.5 to 250 for PLA in ex. 60]}. {While the MFR of PLA is not provided, the examiner takes the position that polylactide would have a MFR within the range of 0.005 to 1000 g/10 min) [MFR of 2.5 to 250 for PLA in ex. 60] to afford a 0.1 to 10 ratio}.

Evidence {data} would need to be presented to support applicant's position that the polylactic acid used in example 60 does not have a MFR of 2.5 to 250; corresponding to a 0.1 to 10 ratio with the propylene/ethylene block copolymer C2 having a MFR of 25 (measured at 230 °C, 2.16 Kg) (§ 2478).

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MFP  
4-August-09

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796